LOW PROFILE LOW NOISE OCXO MV331

Features:
- Low profile package 25.8x25.8x10.6 mm
- Low phase noise
- Long term stability: up to ±2x10⁻⁸/year
- Frequency range: 10.0 – 20.0 MHz

ORDERING GUIDE: MV331–C 3 G–12V–SIN–10.0MHz–LN–5E-12

<table>
<thead>
<tr>
<th>Availability of certain stability vs. operating temperature range (for 10 MHz)</th>
<th>±3x10⁻⁸</th>
<th>±3x10⁻⁹</th>
<th>±3x10⁻¹⁰</th>
<th>±2x10⁻¹⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0...+55°C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>-10...+60°C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>C</td>
<td>-20...+70°C</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
<tr>
<td>D</td>
<td>-40...+70°C</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
<tr>
<td>EX</td>
<td>-40...+85°C</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
</tbody>
</table>

A – available; NA – not available; C – consult factory

For other temperature ranges see destination at the end of Data Sheet

Vibrations:
- Frequency range: 10-500 Hz
- Acceleration: 5 g

Shock:
- Acceleration: 75g
- Duration: 3x1 ms

Humidity @ +25 °C: 98%

Storage temperature range, °C: -55...+85°C

*A For all options of phase noise, except ULN
** For LN and ILN options of phase noise only
*** For ULN option of phase noise only

Additional notes:
For non standard operating temperature ranges please use the following two letters designations (first letter for lower limit, second for the upper limit), °C

A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | U | W | X
-60 | -55 | -50 | -45 | -40 | -30 | -20 | -10 | 0 | +10 | +30 | +40 | +45 | +50 | +55 | +60 | +65 | +70 | +75 | +80 | +85

Supply voltage
- 12 V
- 5 V

Output
- SIN
- HCMOS

Phase noise, dBC/Hz, (for 10MHz), - (standard) | LN | ILN (for 12V, SIN) | ULN (for 12V, SIN)
---|---|---|---
1 Hz | -95 | -100 | -100 | -95
10 Hz | -125 | -130 | -130 | -125
100 Hz | -145 | -145 | -150 | -152
1000 Hz | -155 | -155 | -155 | -160
10000 Hz | -165 | -165 | -165 | -165

Short-term stability (Allan Deviation) for 1s, for 10 MHz: <5x10⁻¹² <2x10⁻¹² (option**)
Frequency stability vs. load changes ±5%: <±5x10⁻¹⁰
Frequency stability vs. voltage changes ±5%: <±5x10⁻¹⁰
Warm-up time within accuracy ±2x10⁻⁸, @ +25°C: <3 min

Supply voltage: 12V±5% 5V±5%
Steady state current consumption @ +25°C: <130 mA <300 mA
Peak current consumption during warm-up (for “D” temp. range at still air): <400 mA <1000 mA
Frequency pulling range (for 10 MHz): >±4,0x10⁻⁷
with external voltage range (Uin): 0...±5 V 0...+4.5 V
Reference voltage output (Uref): +5 V +4.5 V

Output:
- HCMOS
- SIN

Level:
- "0" <0.5 V >300 mV
- "1" >4.0 V (>700 mV***)

Load:
- 10 kOhm/30 pF
- 50 Ohm±5%

Harmonics:
- >30 dBC

MORION, Inc.

Due to continuous development and improvement Morion, Inc. reserves the right to modify design or specifications of its products without prior notice

Revision 5. November 2017